



ecology and environment, inc.

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International Specialists in the Environment

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(Red)

CONFIDENTIAL

January 14, 1993

Ms. Maggie Jennis
Assistant Work Assignment Manager
U.S. Environmental Protection Agency
841 Chestnut Building
Philadelphia, PA 19107

Re: Submittal of Robert Wooler Co. Site
Preliminary Assessment (PA) Dump Site No. PA-2700
ZE5580

Dear Ms. Jennis:

Ecology and Environment, Inc. (E & E) conducted a PA of the Robert Wooler Co. site (RWC), Dump Site No. PA-2700, in Dresher, Montgomery County, Pennsylvania under Work Assignment 85-12-3JZZ, ARCS Contract 68-W8-0085. The completed PA Score program and draft PA report are attached.

PA SCORE

The Hazard Ranking System (HRS) PA Score for the site is 71. The major factors of the scoring are an observed release to groundwater, and an observed release to surface water. E & E recommends a medium priority investigation at this site, consisting of surface water and sediment sampling, groundwater sampling of the RWC well and homewells downgradient of the site. Subsurface soil sampling for TCE contamination in and around the former drain field on site, is recommended as well.

BACKGROUND

RWC is a metal heat treatment facility situated on a 43,050 square-foot lot, which has been active since 1939. Between 1963 and 1985, RWC operated two TCE degreasers on site. The site was targeted for a PA when a Site Investigation (SI) nearby revealed that the well at RWC was contaminated with 270 parts per billion (ppb) trichloroethene (TCE), 22 ppb tetrachloroethene, 52 ppb 1,1,1-trichloroethane (TCA) and 52 ppb 1,1-dichloroethene. It is possible that spent solvents from degreasers entered the septic drain field on site prior to the facility's connection with the municipal sewer system in the early 1980's. This connection roughly coincides with the discontinued use and removal of the degreasers from the site.

The site is located in a heavily populated suburban area 10 miles north of the City of Philadelphia. All of the residents within 4 miles of the site

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rely on groundwater for potable water supply, either purchased from municipal supply companies, or drain from private supply wells.

Pennsylvania Department of Environmental Resources (PADER) Division of Water Quality responded to a citizen complaint in January of this year and found that RWC was illegally discharging an algaecide. The algaecide is an additive to RWC's non-contact process water. The algaecide is documented as being toxic to fish. Discharge was occurring once a week for an unspecified period, and staining from the algaecide was observed on storm sewers, at the storm sewer outfall, and for a considerable distance downstream in the creek that received the discharge from the storm sewer. Discharge ceased by PADER order in February of this year. PADER did not conduct sampling of the stream or the stained sediments.

CONCLUSION

Based on the documentation of TCE contamination in the RWC well, and the documented discharge of a toxic substance to surface water, E & E feels further assessment of the site is necessary. Groundwater samples were collected from homewells near the site in conjunction with the aforementioned SI, however, these wells are upgradient of the site, and results are inconclusive. E & E feels that groundwater samples should be collected from the RWC well and domestic wells downgradient of the site.

It is possible that spent solvents entered the RWC septic drain field prior to the facility's connection with the municipal sewer, and the drain field is now the source of contamination in the RWC well. E & E feels that subsurface soil samples should be collected on site to locate possibly contaminated soils.

The PA Score of 71 is biased high. Although there is an observed release to surface water, the discharge has been discontinued, and the algaecide is not expected to be particularly persistent. However, since the duration of discharge is unknown, E & E feels surface water and sediment sampling is warranted.

If you should have any questions or comments, please contact me at (215) 546-9901.

Sincerely,

Not Responsive Based on Revised Scope

Site Manager

MA/ss

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OMB Control Number: 2050-0047
Approved for Release: 1997

PA-SCORE

PA SCORESHEETS

Site Name: Robert Wooley Company
CERCLA ID No.: PA0987079307
Street Address: 1775 Susquehanna Road
City/State/Zip: Piquette, PA 19005

Investigator: Not Responsive Based on Revised Scope
Agency/Organization: Ecology & Environment Int.
Street Address: 1528 Walnut Street Suite 1303
City/State: Philadelphia, PA

Date: 11/10/97

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WASTE CHARACTERISTICS

Waste Characteristics (WC) Calculations:

1 Robert Wooley Well	Contaminated soil	Ref: A.2	WC value	maximum
Area	1.25E+03 sq ft		5.53E-02	6.68E-02

The well on-site is contaminated with PCB. PCB deicers were used on-site between 1965 and 1985. It is possible that PCB somehow entered the septic system and contaminated the soil in the leaching field, and infiltration or precipitation carried contamination to the water table. PASCORE makes no provision for a contaminated aquifer, so the approximate area of the septic field was used here.
Ref: A.2

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Ground Water Pathway Criteria List
Suspected Release

Are sources poorly contained? (y/n/u)		Y
Is the source a type likely to contribute to ground water contamination (e.g., wet lagoon)? (y/n/u)		Y
Is waste quantity particularly large? (y/n/u)		U
Is precipitation heavy? (y/n/u)		N
Is the infiltration rate high? (y/n/u)		U
Is the site located in an area of Karst terrain? (y/n)		N
Is the subsurface highly permeable or conductive? (y/n/u)		Y
Is drinking water drawn from a shallow aquifer? (y/n/u)		Y
Are suspected contaminants highly mobile in ground water? (y/n/u)		Y
Does analytical or circumstantial evidence suggest ground water contamination? (y/n/u)		Y
Other criteria? (y/n)	Y	Analytical data for on-site well.

SUSPECTED RELEASE? (y/n) Y

Summarize the rationale for Suspected Release:

The site was discovered as a result of a Site Inspection at a site 650 feet upgradient. The well at Robert Wooler Co. (RWC) was sampled as a home-well for the SI. The well was found to be contaminated with trichloroethene (TCE), tetrachloroethene, 1,1,1-trichloroethane and 1,1-dichloroethene. The levels were higher than those at the site being investigated, and not all of the contaminants were attributable to the subject site. Analytical data is presented in Appendix C of the RA report by Ecology & Environment, Inc.

Ground Water Pathway Criteria List Primary Targets	
Is any drinking water well nearby? (y/n/u)	Y
Has any nearby drinking water well been closed? (y/n/u)	N
Has any nearby drinking water well ever reported foul-tasting or foul-smelling water? (y/n/u)	0
Does any nearby well have a large drawdown/high production rate? (y/n/u)	Y
Is any drinking water well located between the site and other wells that are suspected to be exposed to a hazardous substance? (y/n/u)	N
Does analytical or circumstantial evidence suggest contamination at a drinking water well? (y/n/u)	N
Does any drinking water well warrant sampling? (y/n/u)	Y
Other criteria? (y/n)	N
PRIMARY TARGET(S) IDENTIFIED? (y/n)	N
Summarize the rationale for Primary Targets:	
<p>The nearest drinking water well was sampled at the same time the wooley well was, and found to be clean. This well, however, is upgradient of the site. For a water well inventory, and the exact locations of private and municipal wells in the study area, please refer to the Preliminary Assessment report.</p>	
Ref:	2.3

GROUND WATER PATHWAY SCORESHEETS

Pathway Characteristics

			Rel.
Do you suspect a release? (y/n)	Yes		
Is the site located in karst terrain? (y/n)	No		
Depth to aquifer (feet)?	0		
Distance to the nearest drinking water well (feet)?	0		
LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References
1. SUSPECTED RELEASE	550	0	
2. NO SUSPECTED RELEASE	0	0	
LR =	550	0	

Targets

TARGETS	Suspected Release	No Suspected Release	References
3. PRIMARY TARGET POPULATION 0 person(s)	0	0	
4. SECONDARY TARGET POPULATION Are any wells part of a blended systems (y/n) Y	1012	0	
5. NEAREST WELL	20	0	
6. WELLHEAD PROTECTION AREA None within 4 miles	0	0	
7. RESOURCES	5	0	
T =	1037	0	

WASTE CHARACTERISTICS

WC =

10	0
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GROUND WATER PATHWAY SCORE:

100

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Apportionment Documentation for a Blended System

The Secondary Target Population is taken as the population within the study area that relies on groundwater for potable supply. This includes both domestic and municipal supplies. For a complete breakdown of water usage within 4 miles of the site, please refer to the 1993 EAC Preliminary Assessment Report.

Ref: 2.3.4.5

Surface Water Pathway Criteria List
 Suspected Release

Is surface water nearby? (y/n/u)	Y
Is waste quantity particularly large? (y/n/u)	U
Is the drainage area large? (y/n/u)	Y
Is rainfall heavy? (y/n/u)	N
Is the infiltration rate low? (y/n/u)	N
Are sources poorly contained or prone to runoff or flooding? (y/n/u)	Y
Is a runoff route well defined (e.g. ditch/channel to surface water)? (y/n/u)	Y
Is vegetation stressed along the probable runoff path? (y/n/u)	U
Are sediments or water unnaturally discolored? (y/n/u)	Y
Is wildlife unnaturally absent? (y/n/u)	U
Has reposition of waste into surface water been observed? (y/n/u)	Y
Is ground water discharge to surface water likely? (y/n/u)	Y
Does analytical/circumstantial evidence suggest S.W. contact? (y/n/u)	Y
Other criteria? (y/n)	N
SUSPECTED RELEASE? (y/n)	
Y	

Summarize the rationale for Suspected Release:

PADER issued a Notice of Violation to Robert Wooler Co. in February, 1992 for illegal discharge of algaecide. The discharge entered the storm sewer and entered an unnamed tributary of Sandy Run 1000 feet from the site. A PADER inspection revealed a green staining on the storm sewer and at the outfall. The green staining was apparent for "a few hundred feet" downstream of the outfall. No samples were collected, and the discharge was discontinued. The algaecide is reported to be toxic to fish.

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Surface Water Pathway Criteria List
Primary Targets

Is any target nearby? (y/n/u) If yes: Y
N Drinking water intake
Y Fishery
Y Sensitive environment

Has any intake, fishery, or recreational area been closed? (y/n/u) N

Does analytical or circumstantial evidence suggest surface water contamination at or downstream of a target? (y/n/u) Y

Does any target warrant sampling? (y/n/u) If yes: Y
N Drinking water intake
Y Fishery
Y Sensitive environment

Other criteria? (y/n) N

PRIMARY INTAKE(S) IDENTIFIED? (y/n) N

Summarize the rationale for Primary Intakes:

No surface water intakes are reported within 10 miles downstream of the site.

Ref: 1.2.3
continued -----

continued -----

Other criteria? (y/n) N

PRIMARY FISHERY(IES) IDENTIFIED? (y/n) Y

Summarize the rationale for Primary Fisheries:

Wissanickon Creek (approximately 3.3 stream miles from the site) receives drainage from the site, and is listed by the state as a Trout Stocked Fishery and a First Priority Stream (C) River.

Ref: 2.3

Other criteria? (y/n) N

PRIMARY SENSITIVE ENVIRONMENT(S) IDENTIFIED? (y/n) Y

Summarize the rationale for Primary Sensitive Environments:

PADER issued a Notice of Violation to Robert Wooller Co. for illegal discharge of algaecide in February of 1992. There is an 18 acre wetland 1.6 stream miles from the PPE, with approximately 0.5 mile of frontage. The algaecide is documented as being toxic to fish.

Ref: 2.3

SURFACE WATER PATHWAY SCORESHEETS

Pathway Characteristics

		Rel.
Do you suspect a release? (y/n)	Yes	1
Distance to surface water (feet):	0	
Flood frequency (years):	1-10	
What is the downstream distance (miles) to:		
a. the nearest drinking water intake?	0.0	
b. the nearest fishery?	0.0	
c. the nearest sensitive environment?	0.0	
LIKELIHOOD OF RELEASE		
	Suspected Release	No Suspected Release
1. SUSPECTED RELEASE	550	0
2. NO SUSPECTED RELEASE	0	0
LR =	550	0
		References

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Drinking Water Threat Targets

TARGETS	Inspected Release	No Suspected Release	References
3. Determine the water body type, flow (if applicable), and number of people served by each drinking water intake.	0	0	
4. PRIMARY TARGET POPULATION (0 persons)	0	0	
5. SECONDARY TARGET POPULATION Are any intakes part of a blended system? (y/n): N	0	0	
6. NEAREST INTAKE	0	0	
7. RESOURCES	5	0	
T =	5	0	

Drinking Water Threat Target Populations

Intake Name	Primary (y/n)	Water Body Type/Flow	Population Served	Ref.	Value
None					
Total Primary Target Population Value					0
Total Secondary Target Population Value					0

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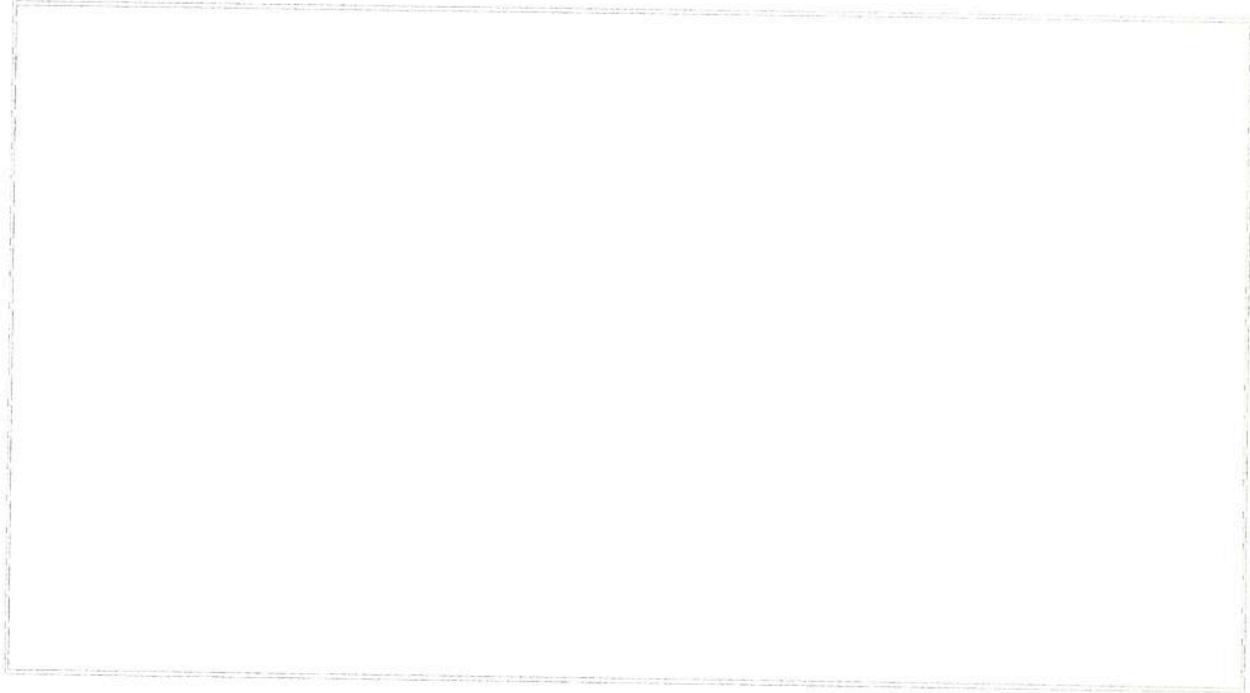
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Apportionment Documentation for a Blended System



Human Food Chain Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
8. Determine the water body type and flow for each fishery within the target limit.			
9. PRIMARY FISHERIES	300		
10. SECONDARY FISHERIES	0	0	
TOTAL	300	0	

Human Food Chain Threat Targets

Fishery name	Primary (Y/N)	Water Body Type/Flow	Ref.	Value
1 Wissahickon Creek	Y	primary fishery	2.3	300
Total Primary Fisheries Value				300
Total Secondary Fisheries Value				0

Environmental Threat Targets

TARGETS	Suspected Release	No. Suspected Release	References
11. Determine the water body type and flow (if applicable) for each sensitive environment.			
12. PRIMARY SENSITIVE ENVIRONMENTS	300		
13. SECONDARY SENSITIVE ENVIRONMENTS	0	0	
TOTAL	300	0	

Environmental Threat Targets

Sensitive Environment Name	Primary (Y/N)	Water Body Type/Flow	Ref.	Value
1 Sandy Run Wetland	Y	primary sens. enviro	2.3	300
Total Primary Sensitive Environments Value				300
Total Secondary Sensitive Environments Value				0

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Surface Water Pathway Threat Scores

Threat	Likelihood of Release (LR) Score	Targets (T) Score	Pathway Waste Characteristics (WC) Score	Threat Score $LR \times T \times WC$ / 82,500
Drinking Water	550	5	32	1
Human Food Chain	550	300	32	64
Environmental	550	300	32	60

SURFACE WATER PATHWAY SCORES

100

Soil Exposure Pathway Criteria List
Resident Population

Is any residence, school, or daycare facility on or within 200 feet of an area of suspected contamination? (y/n/u) N

Is any residence, school, or daycare facility located on adjacent land previously owned or leased by the site owner/operator? (y/n/u) N

Is there a migration route that might spread hazardous substances near residences, schools, or daycare facilities? (y/n/u) N

Have onsite or adjacent residents or students reported adverse health effects, exclusive of apparent drinking water or air contamination problems? (y/n/u) N

Does any neighboring property warrant sampling? (y/n/u) N

Other criteria? (y/n) N

RESIDENT POPULATION IDENTIFIED? (y/n) Y

Summarize the rationale for Resident Population:

SOIL EXPOSURE PATHWAY SCORESHEETS

Pathway Characteristics

	Ref.
Do any people live on or within 200 ft of areas of suspected contamination? (y/n)	No 2.3
Do any people attend school or daycare on or within 200 ft of areas of suspected contamination? (y/n)	No 2.3
Is the facility active? (y/n):	Yes 2.3

LIKELIHOOD OF EXPOSURE	Suspected Contamination	References
1. SUSPECTED CONTAMINATION LE =	550	

Targets

2. RESIDENT POPULATION 0 resident(s) 0 school/daycare student(s)	0	
3. RESIDENT INDIVIDUAL	0	
4. WORKERS None	0	
5. TERRES. SENSITIVE ENVIRONMENTS	0	
6. RESOURCES	0	
T =	0	

WASTE CHARACTERISTICS

WC =

RESIDENT POPULATION THREAT SCORE:

NEARBY POPULATION THREAT SCORE:

Population within 1 Mile: 1 - 10,000

SOIL EXPOSURE PATHWAY SCORE:

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Air Pathway Criteria List
Suspected Release

Are odors currently reported? (y/n/u)	N
Has release of a hazardous substance to the air been directly observed? (y/n/u)	N
Are there reports of adverse health effects (e.g., headaches, nausea, dizziness) potentially resulting from migration of hazardous substances through the air? (y/n/u)	N
Does analytical/circumstantial evidence suggest release to air? (y/n/u)	N
Other criteria? (y/n)	N

SUSPECTED RELEASE? (y/n) N

Summarize the rationale for Suspected Release:

AIR PATHWAY SCORESHEETS

Pathway Characteristics

Do you suspect a release? (y/n)			No	Ref.
Distance to the nearest individual (feet):			0	
LIKELIHOOD OF RELEASE				
		Suspected Release	No Suspected Release	References
1. SUSPECTED RELEASE		0		
2. NO SUSPECTED RELEASE			500	
LR =		0	500	

Targets

TARGETS		Suspected Release	No Suspected Release	References
3. PRIMARY TARGET POPULATION (0 persons)		0		
4. SECONDARY TARGET POPULATION		0	51	
5. NEAREST INDIVIDUAL		0	20	
6. PRIMARY SENSITIVE ENVIRONS.		0		
7. SECONDARY SENSITIVE ENVIRONS.		0	0	
8. RESOURCES		0	5	
T =		0	56	

WASTE CHARACTERISTICS

WC =

0	18
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AIR PATHWAY SCORE:

6

Air Pathway Secondary Target Populations

Distance Categories	Population	References	Value
Onsite	40	2.3	5
Greater than 0 to 1/4 mile	40	2.3	1
Greater than 1/4 to 1/2 mile	791	2.3	2
Greater than 1/2 to 1 mile	1585	2.3	3
Greater than 1 to 2 miles	19845	2.3	6
Greater than 2 to 3 miles	26845	2.3	4
Greater than 3 to 4 miles	55105	2.3	7
Total Secondary Population Value			31

Air Pathway Primary Sensitive Environments:

Sensitive Environment Name	Reference	Value
None		
Total Primary Sensitive Environments Value		

Air Pathway Secondary Sensitive Environments

Sensitive Environment Name	Distance	Reference	Value
None			
Total Secondary Sensitive Environments Value			

SITE SCORE CALCULATION	SCORE
GROUND WATER PATHWAY SCORE:	100
SURFACE WATER PATHWAY SCORE:	100
SOIL EXPOSURE PATHWAY SCORE:	1
AIR PATHWAY SCORE:	6
SITE SCORE:	71

SUMMARY

1. Is there a high possibility of a threat to any nearby drinking water well(s) by migration of a hazardous substance in ground water? Yes

If yes, identify the well(s).

The on-site well is contaminated. Sampling of down gradient wells has not been conducted. It is not known how many people maintain domestic supply wells in the immediate area of the site. For a detailed description of water use in the study area, please refer to the Preliminary Assessment report.

If yes, how many people are served by the threatened well(s)? 0

2. Is there a high possibility of a threat to any of the following by hazardous substance migration in surface water?
- | | |
|--|-----|
| A. Drinking water intake | No |
| B. Fishery | Yes |
| C. Sensitive environment (wetland, critical habitat, others) | Yes |

If yes, identify the target(s).

Wissahickon Creek is listed by PA DER as a Trout Stocked Fishery and a First Priority Scenic River. In addition, there is an 13 acre wetland that also receives drainage and discharge from the site.

3. Is there a high possibility of an area of surficial contamination within 200 feet of any residence, school, or daycare facility? No

If yes, identify the properties and estimate the associated population(s)

4. Are there public health concerns at this site that are not addressed by PA scoring considerations? No

If yes, explain:

REFERENCE LIST

1. NUS Corp. FIT 3, Site Inspection of Selas Corp. of America. February 13, 1990.
2. Ecology & Environment, Inc. Preliminary Assessment of Robert Wooley Co. Site. January, 1993.
3. USGS 7.5 Minute Series Topographic Maps; Ambler, PA (1966, photo revised 1983), Germantown, PA (1967, photorevised 1983), Frankford, PA (1967, photorevised 1983), Hatboro, PA (1966, photorevised 1983).
4. Philadelphia Suburban Water Co. "Water, Our Most Precious Resource" April 1987.
5. Montgomery County Planning Commission. "Water Supply Facilities, 1990 Status Report" and Existing Water Facilities Map. June, 1990.
6. U.S. Dept. of the Interior, Fish and Wildlife Service. National Wetlands Inventory Maps for Ambler, PA (April 1981) and Germantown, PA (April 1981).
7. FEMA Flood Insurance Study; Township of Upper Dublin, Montgomery Co., PA. Revised January 16, 1992.